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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,255	02/14/2001	Stephen H. Gunther	42390P4728X	6135

8791 7590 09/20/2002

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EXAMINER
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LAU, TUNG S

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/784,255	GUNTHER ET AL.	
	Examiner	Art Unit	
	Tung S Lau	2863	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 and 31-63 is/are pending in the application.
- 4a) Of the above claim(s) 41-48 and 50-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27, 21-40, 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Applicant's election with traverse of group I, claims 1-27, 31-40 and 49 in Paper No. 10 is acknowledged.

Claims 41-48, 50-63 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The traversal is on the ground(s) that different method of detecting temperature and different way of controlling thermo system are the same. This is not found persuasive because Inventions of each of groups I-IV groups I-IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions can each be used for their respective uses has separate utility such as Group I deal with thermo detection system and method, group II deal with thermo detection control system with special registers, group III thermo detection control system with registers and circuitry on die, group IV deal with different way of controlling thermo system. See MPEP § 806.05(d).

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1, 9, 17, 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gose et al. (U.S. Patent 5,675,297) in view of Evoy (U.S. Patent 5,713,030).

Gose discloses an apparatus, a thermo management system with power modulation element, control element, visibility element to indicate status of the output (fig. 1), counter timer (fig. 2), power modulation to reduce power consumption (fig. 1-4), with reduce die size and conditional thermo shutdown (col. 2, lines 33-36).

Gose does not disclose the temperature detection element formed on an microprocessor integrated circuit die, Evoy disclose the computer system with temperature detection element formed on an microprocessor integrated circuit die, with plurality of functions with memory (fig. 3), to integrated the function of the microprocessor with temperature control with reference voltage (fig. 3)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gose to have the temperature detection element formed on an microprocessor integrated circuit die taught by Evoy in order to integrated the function of the microprocessor with temperature control.

**b.** Claims 2, 6, 7, 8, 10, 14, 15, 16, 18, 22-33, 35, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Gose in view of Evoy as applied to above claims 1, 9, 17 and further in view of Pippin (U.S. Patent 5,838,578)

The Gose combination disclose a method including the subject matter discussed above except the use of programmable voltage source and comparator, Pippin disclose such usage (fig. 1), a register to allow software and hardware to enable the thermo management system to reduce and monitor temperature (fig. 1, 7, 8, 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gose to have use of programmable voltage source and comparator as taught by Pippin in order to have flexibility on the system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to lower the supply power and the operating frequency of the clock in order to lower temperature of the IC chip and thus boost performance.

**c.** Claims 3, 4, 5, 11, 12, 13, 19, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Gose in view of Evoy as applied

to above claims, and further in view of Kardash (U.S. Patent 6,137,329) and Bhatnagar (U.S. Patent 6,336,593)

The Gose combination disclose a method including the subject matter discussed above except the pulse dampener to remove electrical noise with analog filter, Kardash disclose the pulse dampener to remove electrical noise with analog filter (col. 3, lines 16-31, fig. 5), Bhatnagar with digital filter (col. 8, lines 44-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gose to have the pulse dampener to remove electrical noise as taught by Kardash in order to improve system stability.

d. Claims 34 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pippin (U.S. Patent 5,838,578) in view Wolrich et al. (U.S. Patent 6,101,516).

Pippin disclose and suggested apparatus for thermo management system with register to enable and disable bit, to disengage a specific portion of the thermo management system, with external event, can override (fig. 7-11), allow external software and hardware to enable the for thermo management system (fig. 11), counter to count number of clock with processor and generate interrupt (fig. 9), visibility element to indicate the status of temperature sensor (fig.11).

Pippin does not disclose a use of a sticky bit, Wolrich disclose a use of a sticky bit (col. 4, lines 5-15), to normalize the bit position and speed up calculation (col. 2, lines 29-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Pippin to have the use of a sticky bit taught by Wolrich in order to normalize the bit position and speed up calculation.

***Response to Arguments***

3. Applicant's arguments filed 6/27/2002 have been fully considered but they are not persuasive.

a. Applicant argue that there are no reason to combine the cited document. The cited reference mention the advantage of using the invention on each of the 103 rejection [ to integrated the function of the microprocessor with temperature control with reference voltage (Evoy fig. 3), , Pippin disclose such usage (fig. 1), a register to allow software and hardware to enable the thermo management system to reduce and monitor temperature (fig. 1, 7, 8, 11), Kardash disclose the pulse dampener to remove electrical noise with analog filter (col. 3, lines 16-31, fig. 5), to improve system stability.]

b. Applicant argue that no art teaches 'formed directly on an IC die' while it is obvious to formed the temperature detect unit directly on an IC in order to

improve the reliability of the IC chip for an ordinary skill in the art at the time of the invention, Evoy shows an integrated the function of the microprocessor with temperature control with reference voltage (Evoy fig. 3). Many features including temperature detection functions are pack into IC die, for example memory modules, temperature detection, memory/bus controller among the few that is common to integrate at the time of the invention on an IC design.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Art Unit: 2863

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S Hilten can be reached on 703-308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TL

September 9, 2002



**JOHN S. HILTEN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**